May 22, 2001

Recommendations from the ITMC Section 508 Work Group

This document sets forth the recommendations and guidelines developed by the Section 508 Work Group of the NIH Information Technology Management Committee (ITMC) Administrative Subcommittee. The ITMC chartered the work group to explore the issues concerning the IT portion of the Section 508 standards and to develop recommendations for implementing the standards at NIH. The work group, consisting of 22 people representing 12 ICs, met from January to May 2001. (Attachment 1 lists members' names.) Five subgroups were formed to address the following technology areas covered in the Section 508 standards:

- Software applications and operating systems:
- Web-based intranet and internet information and applications
- Telecommunications products
- Video and multimedia products
- Self contained, closed products
- Desktop and portable computers

Section 508 Standards

Section 508 of the Rehabilitation Act, as amended by the Workforce Investment Act of 1998, states that when Federal agencies develop, procure, maintain, or use electronic and information technology, they shall ensure that Federal employees and members of the public with disabilities have access to and use of information and data that is comparable to the access and use provided to individuals without disabilities, unless an undue burden would be imposed on the agency.

The Architectural and Transportation Barriers Compliance Board (Access Board) published the Section 508 standards December 21, 2000. Enforcement provisions are effective June 21, 2001; however, it has been recognized that agencies will not be able to meet all the requirements by then. It is recommended that agencies have an implementation plan in place by that date. Most vendors did not begin modifying their products until the standards were published; consequently, there are not many Section 508 compliant products on the market at this time. It is anticipated that more products will become available during the next several years.

The Section 508 standards are to be applied prospectively and do not require Federal agencies to retrofit existing electronic and information technology. However, reasonable accommodations still need to be provided to persons with disabilities, if requested, under Section 504 of the Rehabilitation Act.

Overarching Recommendations:

The following recommendations are overarching in that they transcend the technology areas covered in the Section 508 standards, and address how to organize Section 508 efforts agency-wide at the NIH.

- Establish a permanent staff at the NIH level (e.g., Office of Equal Opportunity) to take ITMC recommendations and develop guidance and a certification process for the ICs, keep abreast of new developments and products, and monitor and report on IC progress.

- Give Executive Officers or alternative designees of the IC Directors responsibility to make their resources compliant and the tools and authority to self-certify results:
  - survey the organization's needs
  - determine what investments need to be made
  - develop a plan for meeting the needs
  - prepare a budget
  - monitor progress
- Designate a central organization to develop a communications plan for disseminating information to NIH employees as soon as possible which could include the following:
  - Write articles for the NIH Record.
  - Maintain a website with resource information similar to the work group's website found at http://508.nih.gov.
  - Develop training or add Section 508 material to current training courses, e.g., CIT technical training, Office of Human Resources Management (OHRM) training, or OEO training.
  - Advertise existing Section 508 training/resources.
  - Host vendor expositions of Section 508-compliant products.
  - Advertise accessibility workstations located in NLM, CIT, and NCI.
- Educate IC acquisition officials, develop Section 508 contract language, advise ICs about products that are Section 508 compliant, and ensure that newly procured products are compliant (e.g., Office of Acquisition Management and Policy.)
- Ensure that all NIH training facilities make one workstation fully accessible to people with a range of disabilities, and that training materials are accessible and/or available in alternate formats.
- Ensure that NIH employees with disabilities are given the same quality and level of technical support comparable to that given to employees without disabilities (e.g., technical support staff should be trained on how to make assistive technologies work with standard desktop software.)

Highlights From the Subgroup Reports:

The subgroups made a concentrated effort to conduct extensive research in the specific technology areas in the short amount of time that they were given. In addition, they interviewed individuals who represent those technology areas at NIH, where applicable. Their reports provide important and timely information and guidance on implementing a Section 508 initiative; however, they do not offer a comprehensive plan, as that was not the charter of the work group. The reports reflect the work groups' findings as of the time they were written; portions of the information are likely to become obsolete over time. For detail on each technology area, please refer to the individual subgroup reports.

Software Applications and Operating Systems

In the course of discussions with software developers and other IT personnel at NIH, it became evident that most staff are not aware of Section 508 requirements outside the scope of the Web. In response to this, the subgroup developed a reference document for software developers called "Recommendations for Software Developers", which can be found at http://508.nih.gov. The subgroup recommends that Section 508 requirements be widely advertised as soon as possible through postings to various relevant LISTSERV lists and other outreach activities to:

- Make the NIH software developer community aware of Section 508 application requirements (see "Recommendations for Software Developers" on the Software Applications and Operating Systems Subgroup page at http://508.nih.gov.

- Educate procurement officials on Section 508 requirements with respect to the purchase of new IT applications/hardware and services to develop non-COTS based applications.
- Promote free training classes, availability of checklists, and Section 508 resources, including the work group's web-based resource.
- Incorporate 508 issues in NIH software training classes.
- Establish a Section 508 software certification official responsible for independently verifying that new non-COTS applications are compliant.

Web-based Intranet and Internet Information and Applications

The individuals on this subgroup researched in detail the 16 specific items in the Section 508 standards that address websites. In recognition of the need for clear and up-to-date information about making websites Section 508 compliant, this subgroup has developed a number of documents designed to aid IC webmasters and have posted them on the work group website they created at http://508.nih.gov. The subgroup also gained hands-on experience in applying changes to HTML, testing available tools, and using other resources and training. In order to share this experience with the NIH community, NLM, NCI, and CIT have established workstations for use by NIH Web developers who need access to tools and screen readers to test their websites. Further details concerning these workstations are available at http://508.nih.gov.

The subgroup recommends that the website become an NIH-wide resource and that it continue to be updated and enhanced beyond the life of the ITMC work group. In addition, the subgroup recommends that web developers provide point of contact and other pertinent accessibility information on their websites, because it is important to actively demonstrate an IC's commitment to providing accessible information. The subgroup also recommends that ICs develop an inventory of websites and prioritize which need to be fixed first as part of an overall implementation plan.

The subgroup prepared the following informational documents to aid the ICs in planning their web accessibility activities:

- "Frequently Asked Questions" (FAQ) Document
- Section 508 Web Standards Annotated and Explained
- Compliance Worksheet
- Web Page Examination Sheet
- Accessibility Information and Contact Form
- Checklist for Section 508 Web Compliance Planning

Telecommunications Products

This group conducted in-depth interviews with staff of the CIT Division of Networked Systems and Telecommunications to identify applicable NIH telecommunications systems and devices, and analyze them for Section 508 compliance. CIT/DNST personnel are responsible for much of the telecom equipment used on the NIH campus.

The group found that, at this time, there are no telecommunications devices on the market that are fully Section 508 compliant. This presents an interim problem that will have to be addressed, as well as possible, with product modifications, workarounds, and human intervention, i.e. increased operator assistance. The full report outlines a number of steps that can be taken to improve

accessibility of telecommunications equipment at NIH, and suggests the following areas of responsibility for doing so:

Office of Acquisitions Management and Policy, and CIT contracting personnel.
  o Ensure that telecommunications equipment purchased in large contracts be as compliant as possible within the bounds of available technology.
  o Encourage vendors to develop accessible versions of their products.
- **CIT/DNST.**
  o Inform the ICs of the requirement to install/upgrade telecommunications equipment to the most accessible technologies available.
  o Inform IC personnel involved in arranging for new building or refurbishing of existing space of their responsibility to provide accessible phone equipment in public spaces such as lobbies, elevators, parking lots, etc. This includes "house phones" (courtesy phones), pay phones, and emergency phones.
  o Ensure that switchboard operators receive ongoing training in how to handle TTY calls, as well as an updated list of available TTY numbers on the campus.
- **ICs.**
  o Consider accessibility issues when purchasing phones and other communications devices, especially if every employee is required to use them.
  o Educate IC staff to purchase Section 508-compliant devices wherever possible, since employees will be involved in micropurchasing decisions.
  o Ensure that staff members trained in use of TTYs and relay services are available to answer inquiries.
  o Ensure that every web page and publication supplies a TTY number in its contact information.

Video and Multimedia Products

Section 508 requires captioning of all training and informational video and multimedia products. This includes training and information videos, CD-ROMs, and DVDs, as well as videocast (a.k.a. webcast) and videoconferenced events, both live and archived. Voice recognition technology has not yet reached the point where it can provide a practical solution for real-time, or even-post production, captioning. For the present, the most cost-effective solution is to hire real-time transcription services for the event. It is the most cost-effective because it provides captioning for the event itself; for the videoconferenced version carried on the NIH video bridge, as well as videotapes of the videoconferenced version; and for the videocast version, both live and archived. ORS/Medical Arts and Photography Branch (MAPB) currently have the capability to coordinate real-time transcription services on a contract basis.

Section 508 also stipulates that videos require audio description when they contain visual information necessary for the comprehension of the content such as images, charts, or graphs. A videotaped lecture in which the speaker is essentially a "talking head" does not need to be audio described. However, if the lecture features many images, charts, or graphs that are key to the lecture content, these should be audio-described or, at the very least, described in text format and made available upon request.

Section 508 guidelines require caption decoder circuitry (for any system with a screen larger than 13 inches) and secondary audio channels for television tuners, including tuner cards for use in computers. It is recommended that the NIH community be alerted to the necessity to purchase TV sets and monitors that meet this requirement.

The subgroup report suggests the following areas of responsibility:

- **ICs.**
  - o Responsible for content and format of the event being videoconferenced or videocast, including captioning and audio description.
  - o Ensure that program staff are aware of requirements for captioning and audio description of all multimedia.
  - o Ensure that all multimedia are accessible, whether produced in-house or by outside contractors.
  - o Ensure that televisions and monitors purchased are Section 508 compliant.
- **CIT/DNST.**
  - o Advise ICs of the requirement to caption all videocasts and videoconferences, and refer them to ORS/MAPB (or other resources, as available) to arrange for on-site transcription.
  - o Continue to pursue/support the development of more cost-effective techniques for real-time captioning.
  - o Identify videocasts on the NIH Videocast website that have captions.
- **ORS/MAPB.**
  - o Advise captioning with all video productions for which they provide video production services, and assist clients in arranging for on-site transcription services.
  - o Look into providing transcription services in-house, to reduce costs and allow the hiring of transcriptionists familiar with medical and scientific terminology.
  - o Look into providing postproduction audio description for videotape, CD-ROM, and DVD materials, either in-house or on a contract basis.
- **OEO.**
  - o Research and compile a list of available vendors who can provide audio description of multimedia, and post it on the OEO website.
  - o Update and maintain the existing list of vendors who can provide captioning services.

Desktop and Portable Computers/Self-Contained, Closed Products Subgroup

This group combined two topic areas of Section 508, Desktop and Portable Computers and Self-Contained, Closed Products, since the issues for both seemed to overlap.

The committee investigated a number of self-contained, closed products, as well as IT systems, devices, and peripherals, to determine which met the Section 508 requirements and are currently commercially available. The list of systems and devices studied includes:

Self-contained, Closed Products
- Information kiosks
- Information Transaction Machines
- Copiers
- Printers
- Fax Machines
- Calculators
- Handheld Computers (such as Palm)
- Smart Pagers (such as Blackberry)

Desktop and Portable Computers

- Workstations (e.g., Sun, SGI, etc.)
- Desktop Computers
- Laptop Computers
- Bar Code Scanners
- Peripherals:
  o Scanners
  o Digital Cameras

o WebCams
o Modems
o Speakers
o External Drives (Zip, Jazz, CD-R/W)
o Mice
o Keyboards

The group found that apparently most manufacturers waited until after the standards were published in final form before they began work on redesigning their products to comply with the standards. Because of this, no products were identified by this committee as meeting the standards, and no cost information is available at this time.

The group issued the following recommendations:

- The responsibility for finding accessible devices and systems falls on IC management officials (for micropurchases) as well as procurement officials. Managers and procurement officials are advised to keep abreast of the market for products that meet the standards for accessibility. GSA does not plan to keep a list of compliant systems and devices. However, the Federal IT Section 508 website (http://www.section508.gov/products.html) lists vendors who certify that their products are compliant. Another excellent (and non-commercial) site is the IBM Accessibility Center, which features detailed explanations and checklists for hardware and peripheral accessibility: http://www-3.ibm.com/able/guidelines.htm.
- All NIH training facilities should have at least one workstation that is fully accessible to people with a wide range of disabilities. These workstations should be equipped with appropriate assistive technologies, such as a screen reader, installed and fully functional.
- NIH employees with disabilities should be given the same quality and level of technical support comparable to the quality and level of technical support given to employees without disabilities. Computer support personnel should have basic knowledge of standard assistive devices and software, such as screen readers and voice recognition technology.
- NIH employees with disabilities should be given the access to technical training comparable to that available to employees without disabilities. Training materials should be made available in alternate formats; PowerPoint presentations should preclude extensive use of clip art and animation, which cause problems for screen readers. If diagrams and illustrations are used extensively in slide presentations, text descriptions of these should be made available.

For Further Information:

The ITMC Section 508 Work Group has created an NIH Section 508 website at http://508.nih.gov. Further information, essential references, and the full text of all the subgroup reports is available on the website.

Attachments:

List of Work Group Members

ITMC Section 508 Work Group final reports

Attachment 1

Information Technology Management Committee (ITMC)
Administrative Subcommittee
Section 508 Work Group

Bronna Cohen, CIT (co-chair)
Marilyn Allen, CIT (co-chair)
Iraj Bakhtiari, NIMH
Glen Bennett, NHLBI
Mark Dubnick, NINDS
Helen Garton, NLM
Anita Ghebeles, OD
Christen Gibbons, NIDCR
Debby Hill, NIAAA
Mark Malamud, NHLBI
Charles Mokotoff, CIT

Angela Murphy, OD
Steve Noe, CIT
Ward Pettis, NIDCD
Jim Pitts, CC
Dennis Rodrigues, OD
Mark Silverman, CIT
Scott Stewart, ORS
Doug Sur, CC
Bill Trefzger, NCI
Mike Walker, OD
Dan Young, CIT

Ex-Officio:
David Orchard – Chair of the ITMC Administrative Subcommittee
Lynda Bennett – Office of the Deputy CIO
Leslie Barden - CIT
Gary Morin – OEO
Marcella Haynes - OEO